

RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical
Information Center (STIC) no errors detected.

Application Serial Number: 09/117,2460
Source: FW/b
Date Processed by STIC: 4/3/07

ENTERED



IFW16

RAW SEQUENCE LISTING

DATE: 04/03/2007

PATENT APPLICATION: US/09/117,246D

TIME: 13:20:50

Input Set : A:\50062.004001.txt

Output Set: N:\CRF4\04032007\I117246D.raw

3 <110> APPLICANT: Ludevid, Dolores
 4 Torrent, Margarita
 5 Alvarez, Inaki
 6 Perez, Pascual
 8 <120> TITLE OF INVENTION: Amino acid-enriched plant protein reserves, particularly
 9 lysine-enriched maize gamma-zein, and plants expressing such
 10 proteins
 12 <130> FILE REFERENCE: 50062/004001
 14 <140> CURRENT APPLICATION NUMBER: US 09/117,246D
 15 <141> CURRENT FILING DATE: 1998-12-03
 17 <150> PRIOR APPLICATION NUMBER: PCT/FR97/00167
 18 <151> PRIOR FILING DATE: 1997-01-28
 20 <150> PRIOR APPLICATION NUMBER: FR96/01004
 21 <151> PRIOR FILING DATE: 1996-01-29
 23 <160> NUMBER OF SEQ ID NOS: 25
 25 <170> SOFTWARE: PatentIn version 3.3
 27 <210> SEQ ID NO: 1
 28 <211> LENGTH: 44
 29 <212> TYPE: DNA
 30 <213> ORGANISM: Artificial Sequence
 32 <220> FEATURE:
 33 <223> OTHER INFORMATION: based on Maize
 35 <400> SEQUENCE: 1
 36 cgatgaattc aaaccaaagc caaagccgaa gccaaaagaa ttca 44
 39 <210> SEQ ID NO: 2
 40 <211> LENGTH: 46
 41 <212> TYPE: DNA
 42 <213> ORGANISM: Artificial Sequence
 44 <220> FEATURE:
 45 <223> OTHER INFORMATION: based on Maize
 47 <400> SEQUENCE: 2
 48 agcttgaatt cttttggctt cggctttggc tttggtttga attcat 46
 51 <210> SEQ ID NO: 3
 52 <211> LENGTH: 17
 53 <212> TYPE: PRT
 54 <213> ORGANISM: Maize
 56 <400> SEQUENCE: 3
 58 Ile Glu Phe Lys Pro Lys Pro Lys Pro Lys Glu Phe Leu Gln
 59 1 5 10 15
 62 Pro
 66 <210> SEQ ID NO: 4
 67 <211> LENGTH: 28
 68 <212> TYPE: PRT

see p. 6

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69 <213> ORGANISM: Maize
71 <400> SEQUENCE: 4
73 Ile Glu Phe Lys Pro Lys Pro Lys Pro Lys Pro Lys Glu Phe Lys Pro
74 1      5      10      15
77 Lys Pro Lys Pro Lys Pro Lys Glu Phe Leu Gln Pro
78      20      25
81 <210> SEQ ID NO: 5
82 <211> LENGTH: 20
83 <212> TYPE: PRT
84 <213> ORGANISM: Maize
86 <400> SEQUENCE: 5
88 Asp Gly Ile Asp Glu Phe Lys Pro Lys Pro Lys Pro Lys Pro Lys Glu
89 1      5      10      15
92 Phe Lys Leu Asp
93      20
96 <210> SEQ ID NO: 6
97 <211> LENGTH: 672
98 <212> TYPE: DNA
99 <213> ORGANISM: Maize
102 <220> FEATURE:
103 <221> NAME/KEY: CDS
104 <222> LOCATION: (1)..(672)
106 <400> SEQUENCE: 6
107 atg agg gtg ttg ctc gtt gcc ctc gct ctc ctg gct ctc gct gcg agc      48
108 Met Arg Val Leu Leu Val Ala Leu Ala Leu Leu Ala Leu Ala Ala Ser
109 1      5      10      15
111 gcc acc tcc acg cat aca agc ggc ggc tgc ggc tgc cag cca ccg ccg      96
112 Ala Thr Ser Thr His Thr Ser Gly Gly Cys Gly Cys Gln Pro Pro Pro
113      20      25      30
115 ccg gtt cat cta ccg ccg ccg gtg cat ctg cca cct ccg gtt cac ctg      144
116 Pro Val His Leu Pro Pro Pro Val His Leu Pro Pro Pro Val His Leu
117      35      40      45
119 cca cct ccg gtg cat ctc cca ccg ccg gtc cac ctg ccg ccg ccg gtc      192
120 Pro Pro Pro Val His Leu Pro Pro Pro Val His Leu Pro Pro Pro Val
121      50      55      60
123 cac ctg cca ccg ccg gtc cat gtg ccg ccg ccg gtt cat ctg ccg ccg      240
124 His Leu Pro Pro Pro Val His Val Pro Pro Pro Val His Leu Pro Pro
125 65      70      75      80
127 cca cca tgc cac tac cct act caa ccg ccc cgg cct cag cct cat ccc      288
128 Pro Pro Cys His Tyr Pro Thr Gln Pro Pro Arg Pro Gln Pro His Pro
129      85      90      95
131 cag cca cac cca tgc ccg tgc caa cag ccg cat cca agc ccg tgc cag      336
132 Gln Pro His Pro Cys Pro Cys Gln Gln Pro His Pro Ser Pro Cys Gln
133      100      105      110
135 ctg cag gga acc tgc ggc gtt ggc agc acc ccg atc ctg ggc cag tgc      384
136 Leu Gln Gly Thr Cys Gly Val Gly Ser Thr Pro Ile Leu Gly Gln Cys
137      115      120      125
139 gtc gag ttt ctg agg cat cag tgc agc ccg acg gcg acg ccc tac tgc      432
140 Val Glu Phe Leu Arg His Gln Cys Ser Pro Thr Ala Thr Pro Tyr Cys

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|-----|-----------------------|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|-----|
| 141 | | 130 | | | | 135 | | | | 140 | | | | | | | | | |
| 143 | tcg | cct | cag | tgc | cag | tcg | ttg | cgg | cag | cag | tgt | tgc | cag | cag | ctc | agg | | | 480 |
| 144 | Ser | Pro | Gln | Cys | Gln | Ser | Leu | Arg | Gln | Gln | Cys | Cys | Gln | Gln | Leu | Arg | | | |
| 145 | 145 | | | | | 150 | | | | | 155 | | | | | 160 | | | |
| 147 | cag | gtg | gag | ccg | cag | cac | cgg | tac | cag | gcg | atc | ttc | ggc | ttg | gtc | ctc | | | 528 |
| 148 | Gln | Val | Glu | Pro | Gln | His | Arg | Tyr | Gln | Ala | Ile | Phe | Gly | Leu | Val | Leu | | | |
| 149 | | | | | 165 | | | | | 170 | | | | | | 175 | | | |
| 151 | cag | tcc | atc | ctg | cag | cag | cag | ccg | caa | agc | ggc | cag | gtc | gcg | ggg | ctg | | | 576 |
| 152 | Gln | Ser | Ile | Leu | Gln | Gln | Gln | Pro | Gln | Ser | Gly | Gln | Val | Ala | Gly | Leu | | | |
| 153 | | | | 180 | | | | | 185 | | | | | 190 | | | | | |
| 155 | ttg | gcg | gcg | cag | ata | gcg | cag | caa | ctg | acg | gcg | atg | tgc | ggc | ctg | cag | | | 624 |
| 156 | Leu | Ala | Ala | Gln | Ile | Ala | Gln | Gln | Leu | Thr | Ala | Met | Cys | Gly | Leu | Gln | | | |
| 157 | | | 195 | | | | | 200 | | | | 205 | | | | | | | |
| 159 | cag | ccg | act | cca | tgc | ccc | tac | gct | gct | gcc | ggc | ggg | gtc | ccc | cac | tga | | | 672 |
| 160 | Gln | Pro | Thr | Pro | Cys | Pro | Tyr | Ala | Ala | Ala | Gly | Gly | Val | Pro | His | | | | |
| 161 | | 210 | | | | | 215 | | | | | 220 | | | | | | | |
| 164 | <210> SEQ ID NO: 7 | | | | | | | | | | | | | | | | | | |
| 165 | <211> LENGTH: 223 | | | | | | | | | | | | | | | | | | |
| 166 | <212> TYPE: PRT | | | | | | | | | | | | | | | | | | |
| 167 | <213> ORGANISM: Maize | | | | | | | | | | | | | | | | | | |
| 169 | <400> SEQUENCE: 7 | | | | | | | | | | | | | | | | | | |
| 171 | Met | Arg | Val | Leu | Leu | Val | Ala | Leu | Ala | Leu | Leu | Ala | Leu | Ala | Ala | Ser | | | |
| 172 | 1 | | | 5 | | | | | 10 | | | | | | 15 | | | | |
| 175 | Ala | Thr | Ser | Thr | His | Thr | Ser | Gly | Gly | Cys | Gly | Cys | Gln | Pro | Pro | Pro | | | |
| 176 | | | 20 | | | | | 25 | | | | | 30 | | | | | | |
| 179 | Pro | Val | His | Leu | Pro | Pro | Pro | Val | His | Leu | Pro | Pro | Pro | Val | His | Leu | | | |
| 180 | | | 35 | | | | | 40 | | | | | 45 | | | | | | |
| 183 | Pro | Pro | Pro | Val | His | Leu | Pro | Pro | Pro | Val | His | Leu | Pro | Pro | Pro | Val | | | |
| 184 | | 50 | | | | | 55 | | | | | 60 | | | | | | | |
| 187 | His | Leu | Pro | Pro | Pro | Val | His | Val | Pro | Pro | Pro | Val | His | Leu | Pro | Pro | | | |
| 188 | 65 | | | | | 70 | | | | | 75 | | | | | 80 | | | |
| 191 | Pro | Pro | Cys | His | Tyr | Pro | Thr | Gln | Pro | Pro | Arg | Pro | Gln | Pro | His | Pro | | | |
| 192 | | | | 85</ | | | | | | | | | | | | | | | |

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Input Set : A:\50062.004001.txt

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227 <210> SEQ ID NO: 8
228 <211> LENGTH: 693
229 <212> TYPE: DNA
230 <213> ORGANISM: maize
233 <220> FEATURE:
234 <221> NAME/KEY: CDS
235 <222> LOCATION: (1)..(693)
237 <400> SEQUENCE: 8
238 atg agg gtg ttg ctc gtt gcc ctc gct ctc ctg gct ctc gct gcg agc      48
239 Met Arg Val Leu Leu Val Ala Leu Ala Leu Leu Ala Leu Ala Ala Ser
240 1          5          10          15
242 gcc acc tcc acg cat aca agc ggc ggc tgc ggc tgc cag cca ccg ccg      96
243 Ala Thr Ser Thr His Thr Ser Gly Gly Cys Gly Cys Gln Pro Pro Pro
244          20          25          30
246 ccg gtt cat cta ccg ccg ccg gtg cat ctg cca cct ccg gtt cac ctg      144
247 Pro Val His Leu Pro Pro Pro Val His Leu Pro Pro Pro Val His Leu
248          35          40          45
250 cca cct ccg gtg cat ctc cca ccg ccg gtc cac ctg ccg ccg ccg gtc      192
251 Pro Pro Pro Val His Leu Pro Pro Pro Val His Leu Pro Pro Pro Val
252          50          55          60
254 cac ctg cca ccg ccg gtc cat gtg ccg ccg ccg gtt cat ctg ccg ccg      240
255 His Leu Pro Pro Pro Val His Val Pro Pro Pro Val His Leu Pro Pro
256 65          70          75          80
258 cca cca tgc cac tac cct act caa ccg ccc cgg atc gaa ttc aaa cca      288
259 Pro Pro Cys His Tyr Pro Thr Gln Pro Pro Arg Ile Glu Phe Lys Pro
260          85          90          95
262 aag cca aag ccg aag cca aaa gaa ttc aaa cca aag cca aag ccg aag      336
263 Lys Pro Lys Pro Lys Pro Lys Glu Phe Lys Pro Lys Pro Lys Pro Lys
264          100          105          110
266 cca aaa gaa ttc ctg cag ccc ctg cag gga acc tgc ggc gtt ggc agc      384
267 Pro Lys Glu Phe Leu Gln Pro Leu Gln Gly Thr Cys Gly Val Gly Ser
268          115          120          125
270 acc ccg atc ctg ggc cag tgc gtc gag ttt ctg agg cat cag tgc agc      432
271 Thr Pro Ile Leu Gly Gln Cys Val Glu Phe Leu Arg His Gln Cys Ser
272          130          135          140
274 ccg acg gcg acg ccc tac tgc tgc cct cag tgc cag tgc ttg ccg cag      480
275 Pro Thr Ala Thr Pro Tyr Cys Ser Pro Gln Cys Gln Ser Leu Arg Gln
276 145          150          155          160
278 cag tgt tgc cag cag ctc agg cag gtg gag ccg cag cac cgg tac cag      528
279 Gln Cys Cys Gln Gln Leu Arg Gln Val Glu Pro Gln His Arg Tyr Gln
280          165          170          175
282 gcg atc ttc ggc ttg gtc ctc cag tcc atc ctg cag cag cag cca      576
283 Ala Ile Phe Gly Leu Val Leu Gln Ser Ile Leu Gln Gln Gln Pro Gln
284          180          185          190
286 agc ggc cag gtc gcg ggg ctg ttg gcg gcg cag ata gcg cag caa ctg      624
287 Ser Gly Gln Val Ala Gly Leu Leu Ala Ala Gln Ile Ala Gln Gln Leu
288          195          200          205
290 acg gcg atg tgc ggc ctg cag cag ccg act cca tgc ccc tac gct gct      672
291 Thr Ala Met Cys Gly Leu Gln Gln Pro Thr Pro Cys Pro Tyr Ala Ala

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292      210      215      220
294 gcc ggc ggt gtc ccc cac tga
295 Ala Gly Gly Val Pro His
296 225      230
299 <210> SEQ ID NO: 9
300 <211> LENGTH: 230
301 <212> TYPE: PRT
302 <213> ORGANISM: maize
304 <400> SEQUENCE: 9
306 Met Arg Val Leu Leu Val Ala Leu Ala Leu Leu Ala Leu Ala Ala Ser
307 1      5      10      15
310 Ala Thr Ser Thr His Thr Ser Gly Gly Cys Gly Cys Gln Pro Pro Pro
311      20      25      30
314 Pro Val His Leu Pro Pro Pro Val His Leu Pro Pro Pro Val His Leu
315      35      40      45
318 Pro Pro Pro Val His Leu Pro Pro Pro Val His Leu Pro Pro Pro Val
319      50      55      60
322 His Leu Pro Pro Pro Val His Val Pro Pro Pro Val His Leu Pro Pro
323 65      70      75      80
326 Pro Pro Cys His Tyr Pro Thr Gln Pro Pro Arg Ile Glu Phe Lys Pro
327      85      90      95
330 Lys Pro Lys Pro Lys Pro Lys Glu Phe Lys Pro Lys Pro Lys Pro Lys
331      100      105      110
334 Pro Lys Glu Phe Leu Gln Pro Leu Gln Gly Thr Cys Gly Val Gly Ser
335      115      120      125
338 Thr Pro Ile Leu Gly Gln Cys Val Glu Phe Leu Arg His Gln Cys Ser
339      130      135      140
342 Pro Thr Ala Thr Pro Tyr Cys Ser Pro Gln Cys Gln Ser Leu Arg Gln
343 145      150      155      160
346 Gln Cys Cys Gln Gln Leu Arg Gln Val Glu Pro Gln His Arg Tyr Gln
347      165      170      175
350 Ala Ile Phe Gly Leu Val Leu Gln Ser Ile Leu Gln Gln Gln Pro Gln
351      180      185      190
354 Ser Gly Gln Val Ala Gly Leu Leu Ala Ala Gln Ile Ala Gln Gln Leu
355      195      200      205
358 Thr Ala Met Cys Gly Leu Gln Gln Pro Thr Pro Cys Pro Tyr Ala Ala
359      210      215      220
362 Ala Gly Gly Val Pro His
363 225      230
366 <210> SEQ ID NO: 10
367 <211> LENGTH: 723
368 <212> TYPE: DNA
369 <213> ORGANISM: Maize
372 <220> FEATURE:
373 <221> NAME/KEY: CDS
374 <222> LOCATION: (1)..(723)
376 <400> SEQUENCE: 10
377 atg agg gtg ttg ctc gtt gcc ctc gct ctc ctg gct ctc gct gcg agc
378 Met Arg Val Leu Leu Val Ala Leu Ala Leu Leu Ala Leu Ala Ala Ser

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RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/09/117,246D

DATE: 04/03/2007
TIME: 13:20:51

Input Set : A:\50062.004001.txt
Output Set: N:\CRF4\04032007\I117246D.raw

KYI
Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:22; Xaa Pos. 5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25

Seq#:22; Xaa Pos. 26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44

Seq#:22; Xaa Pos. 45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60

VERIFICATION SUMMARY

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Input Set : A:\50062.004001.txt

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L:950 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:22 after pos.:0
M:341 Repeated in SeqNo=22